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Parameter estimation for reciprocal gamma Ornstein-Uhlenbeck type processes


**Abstract.** We consider parameter estimation for a process of Ornstein–Uhlenbeck type with reciprocal gamma marginal distribution, to be called reciprocal gamma Ornstein–Uhlenbeck (RGOU) process. We derive minimum contrast estimators of unknown parameters based on both the discrete and the continuous observations from the process as well as moments based estimators based on discrete observations. We prove that proposed estimators are consistent and asymptotically normal. The explicit forms of the asymptotic covariance matrices are determined by using the higher order spectral densities and cumulants of the RGOU process.